

Date: Wednesday, 12/7/2005 12:44:13 PM  
 User: Kim Johnston

## Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: BRACKET
Job Number	: 25157		
Estimate Number	: 11111		
P.O. Number	: N/A	Part Number	: D33048
This Issue	: 12/7/2005 S.O. No. : N/A	Drawing Number	: D3304 REV B
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: N/A Type : PURCHASED PARTS	Drawing Revision	: B
Previous Run	: N/A	Material	: N/A
Written By	: <u>SEE COMMENT BELOW</u>	Due Date	: 12/20/2005
Checked & Approved By	: <u>SEE COMMENT BELOW</u>	Qty:	13 Um: Each
Comment	: Est A 04.09.07 New issue KJJ/LM		

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

1.0	PG	PURCHASING
-----	----	------------



Comment: PURCHASING

Issue P/O: 000000267

Email or Ship DXF file to vendor

Laser Cut flat pattern per Dwg D3304(SAME AS -7)

Possible Supplier: GFI &amp; Industrial Laser

Material release note is required

2.0	D33047F	bracket flat
-----	---------	--------------



Comment: Qty.: 1.0000 Each(s)/Unit Total: 12.0000 Each(s)  
 Bracket

3.0	PACKAGING 1	PACKAGING RESOURCE #1
-----	-------------	-----------------------



Comment: PACKAGING RESOURCE #1

Receive &amp; Inspect for Transit Damage

Ensure Material Release Note is attached

DL 05/12/30 12

4.0	QC6	DIMENSIONAL CHECK
-----	-----	-------------------



Comment: DIMENSIONAL CHECK

J 11-01-03

PTD

5.0	SMALL FAB 1	SMALL & MEDIUM FAB RESOURCE 1
-----	-------------	-------------------------------


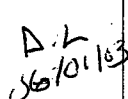
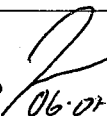

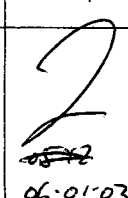


Comment: SMALL & MEDIUM FAB RESOURCE 1  
 Deburr

DL 06/01/06 13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D3304-8 PAR #: \_\_\_\_\_ Fault Category: Supplier NCR: Yes No DQA: Q Date: 06/01/25  
INTEGRIS METALS QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR: <u>25157</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
060103	5	holes not exactly made too Dwg. due too laser cut.		Finish holes as per Dwg.	 06/01/25	 06-01-25		 06-01-03

NOTE: Date & initial all entries

Date: Wednesday, 12/7/2005 12:44:13 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BRACKET

Job Number: 25157

Part Number: D33048

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

BRAKE NC

NC BRAKE



Comment: NC BRAKE

1-Deburr

2-Form as per Dwg D3304

3-Tumble

Paint

SB 06/01/17

DL 06/01/23 (13)

7.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

06.01.17

8.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: 914

06/11/25 (13)

9.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

06/01/26 (13)

06/01/25

Job Completion



7.1

Ignore

7.2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
06-01-17	6	No tumble required. - they get welded & painted. remove tumble.  permanent change	<i>[Signature]</i>	06.01.17		<i>[Signature]</i> 06-01-17	<i>[Signature]</i> 06-01-17

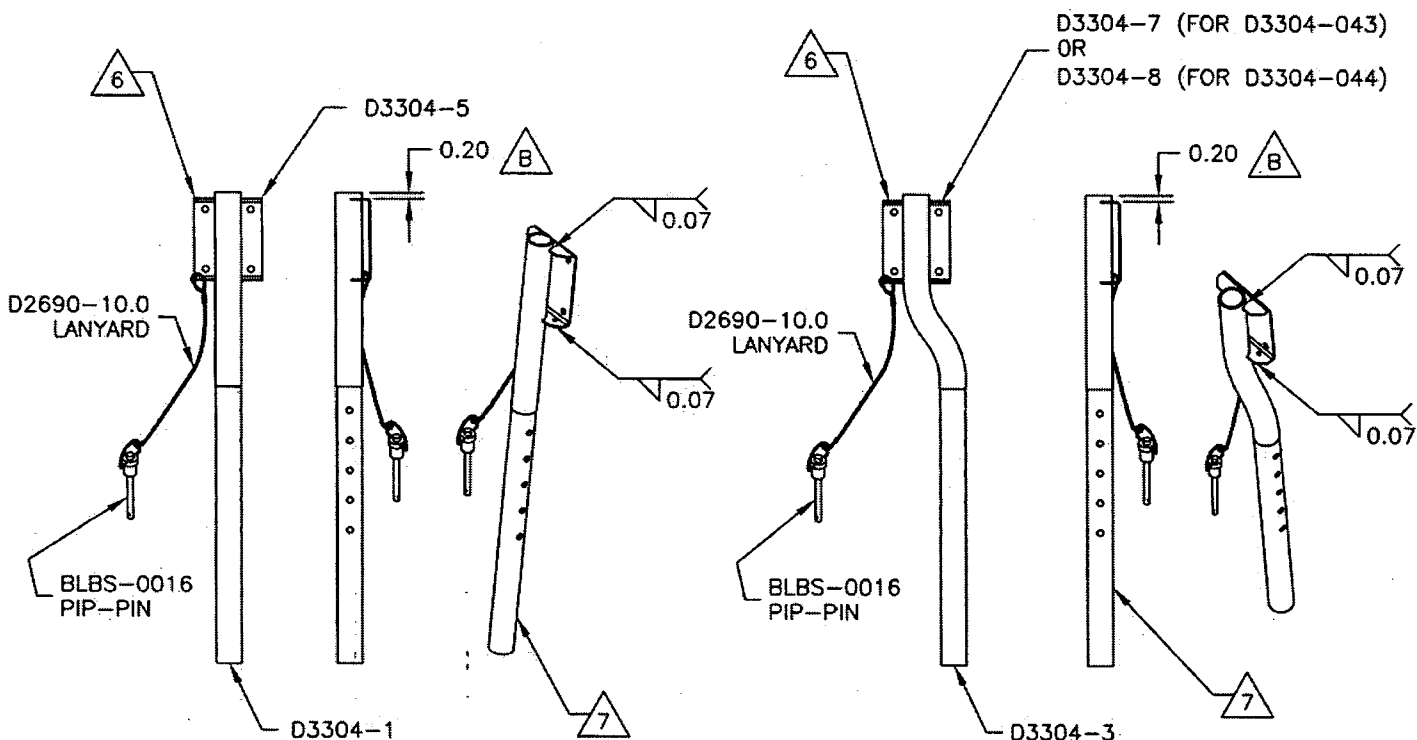
Part No: D3304-8 PAR #: \_\_\_\_\_ Fault Category: SUPPLIER NCR: Yes No DQA: D Date: 06/01/25  
INTEGRIS METALS QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR: <u>25157</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

**DART**

DESIGN	RF	DRAWN BY	RF	DART AEROSPACE LTD
CHECKED	#	APPROVED	#	HAWKESBURY, ONTARIO, CANADA
DATE	05.07.15	TITLE	D3304	REV. B
			TUBE ASSEMBLY	SHEET 1 OF 4
				SCALE 1:6
A	04.08.18	NEW ISSUE		
B	05.07.15	UPDATE DIMENSIONS: ADD D3304-7/-8		



**D3304-041 TUBE ASSEMBLY**

**D3304-044 TUBE ASSEMBLY (SHOWN)  
D3304-043 OPPOSITE**

**D3304-041/-043/-044 NOTES:**

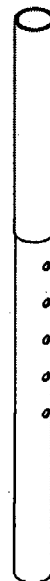
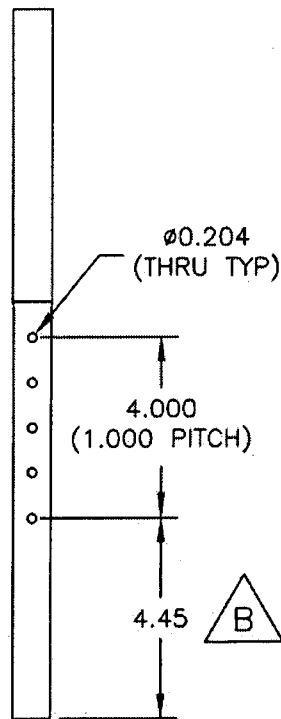
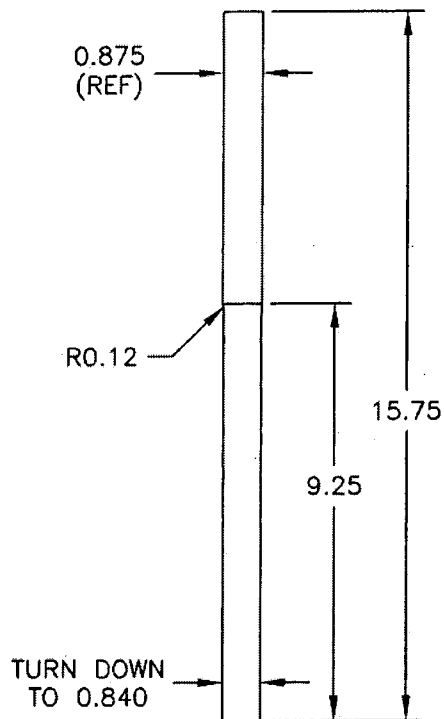
- 1) FINISH: POWDER COAT GREY SANDTEX (REF. 4.3.5.6) PER DART QSI 005 4.3
- 2) WELD PER DART QSI 004
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) IDENTIFY AS INDICATED USING FINE POINT PERMANENT INK MARKER "TCCA-PDA, DART AEROSPACE LTD, P/N D3304-XXX B/N BXXXXX, FOR PRODUCT ELIGIBILITY SEE PDA04-11"
- 7) IF BEING ASSEMBLED WITH D3303-041, ADD THE FOLLOWING USING A FINE POINT PERMANENT INK MARKER: "TCCA-PDA, DART AEROSPACE LTD, P/N D412-724-XXX B/N BXXXXX, FOR PRODUCT ELIGIBILITY SEE PDA04-11"

**RELEASED**  
05.08.11



DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3304	REV. B SHEET 2 OF 4
DATE 05.07.15		TITLE TUBE ASSEMBLY	SCALE 1:4

RELEASED  
05.08.11 *[Signature]*



### D3304-1 TUBE

#### D3304-1 NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL TUBE  $\phi 0.875 \times 0.065$  WALL  
(REF. DART SPEC M304TR0.875W.065) ENSURE SEAMLESS TUBE IS USED
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015

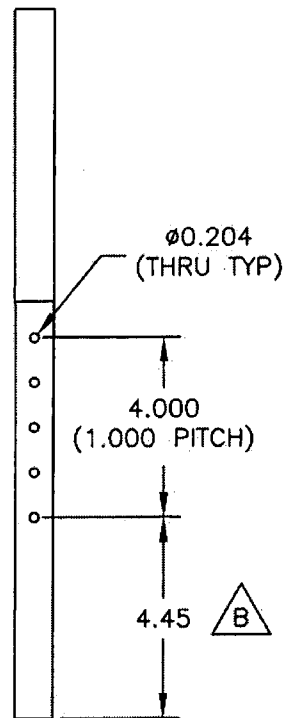
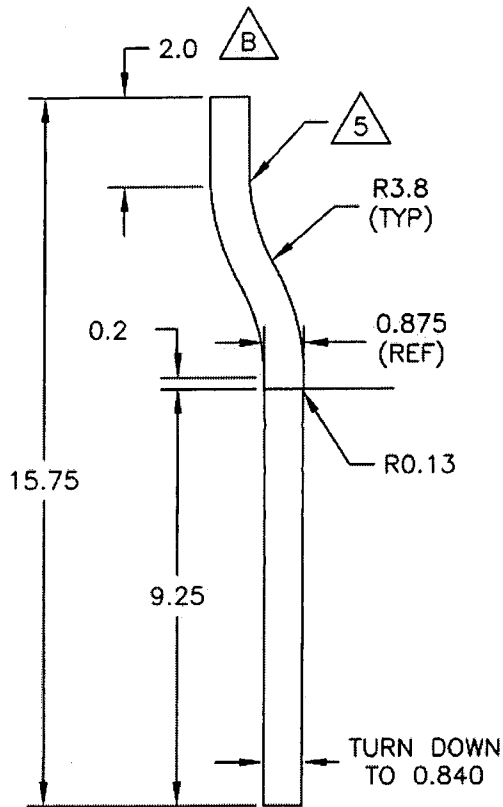
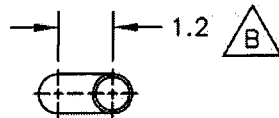
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25157

**DART**

DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3304	REV. B SHEET 3 OF 4
DATE 05.07.15		TITLE TUBE ASSEMBLY	SCALE 1:4

**RELEASED**  
05-08-11 *[Signature]***D3304-3 TUBE****D3304-3 NOTES:**

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL TUBE  $\phi 0.875 \times 0.065$  WALL (REF. DART SPEC M304TR0.875W.065) ENSURE SEAMLESS TUBE IS USED
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) BEND LINES 9.625, 13.375 DIMENSIONS

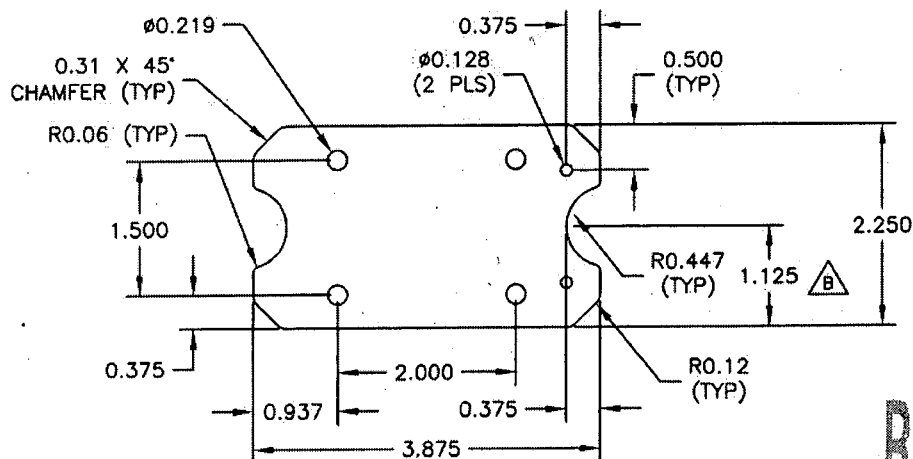
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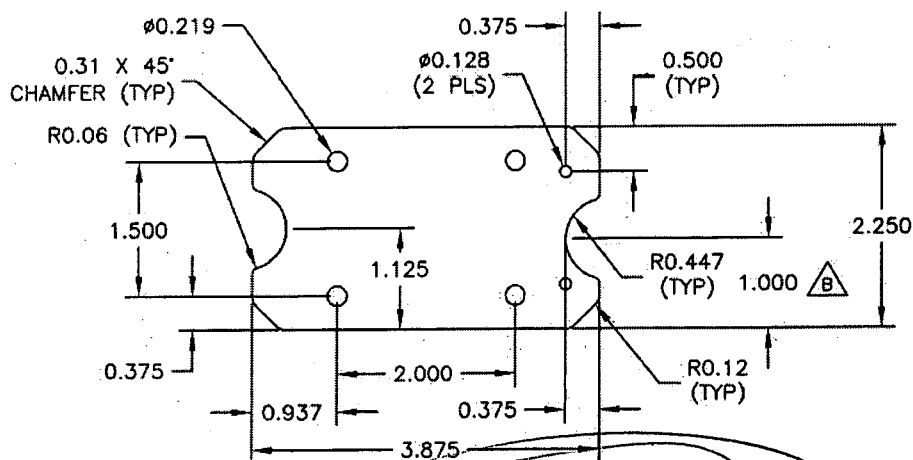
25157



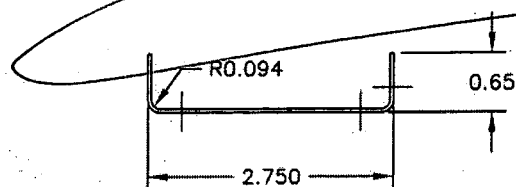
DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3304	REV. B SHEET 4 OF 4
DATE 05.07.15	TITLE TUBE ASSEMBLY		SCALE 1:2



**D3304-5 FLAT PATTERN**



**D3304-7/-8 FLAT PATTERN**



**D3304-5/-7 BRACKET  
D3304-8 OPPOSITE**

**NOTES:**

- 1) MATERIAL: AISI 304/316 SS 0.040 THICK SHEET (REF. DART SPEC M304S20GA)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015

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90229754  
**INSPECTION CERTIFICATE**  
**MATERIAL TEST/INSPECTION CERTIFICATES**

**YIH MAU CORP.**  
YEN MAU CORP.

INVOICE NO.  
COMMODITY:

FORM 165  
PRIME COLD ROLLED STAINLESS STEEL SHEET AISI 304 NO.4 (SI)  
FINISH WITH 100 MIC.FILM ON MAIN SIDE, WITH BACK-PASS,  
SLITTED EDGE AISI 304, 2B FINISH, WITH PAPER INTERLEAVED,  
SLITTED EDGE.  
AISI 304

SPECIFICATION:  
CUSTOMER:

INTEGRIS METALS LTD

工廠: 嘉善港港竹街廣安路345號  
345, SHUN AN RD. LI CHU HSANG  
KAOHSUNG TAIWAN R.O.C.  
TEL: (07) 8672885 FAX: (07) 8673006  
CERTIFICATE NO: 9011192  
DATE OF ISSUE: 1/18/2004

SPECIFICATION :		INTEGRIS METALS LTD				Physical Properties					Chemical Composition								
(ITEM NO) SIZE	NO.	Weight (N.W.)		Heat No.	ID NO.	Tensile Test GL-50 mm					(%)								
		KGS	LBS			YS (N/mm <sup>2</sup> )	TS (N/mm <sup>2</sup> )	EL (%)	HRB	HV	C x100	SI x100	Mn x100	P x100	S x1000	NI x100	Cr x100	N x100	
AISI 304 2B (7425-4228)																			
24GA/48"X120"	1	1,465	3,230	YU231320	3AS44453B-21	258	685	56	81	156	4.6	51	119	24	2	804	1821	2.7	
24GA/48"X120"	1	1,464	3,228	YU231320	3AS44453B-22	258	685	56	81	156	4.6	51	119	24	2	804	1821	2.7	
(7425-8860)																			
22GA/48"X36"	1	1,464	3,228	YU230510	38S37600B-61	280	673	53	82	162	5.4	50	126	26	3	815	1819	2.4	
(7425-8850)																			
22GA/48"X120"	1	1,375	3,031	YU230510	38S37600B-52	280	673	53	82	162	5.4	50	126	26	3	815	1819	2.4	
(7425-8850)																			
18GA/48"X36"	1	1,445	3,186	YU134975	3AS43434A-1	312	666	51	82	161	4.1	49	112	24	2	809	1821	2.8	
(7425-2619)																			
18GA/48"X36"	1	1,497	3,300	YU231066	3AS42732-4	301	664	49	84	166	3.7	40	116	27	5	810	1824	3.7	
(7425-2619)																			
18GA/48"X120"	1	1,453	3,203	YU231066	3AS42732-5	301	664	49	84	166	3.7	40	116	27	5	810	1824	3.7	
18GA/48"X120"	1	1,455	3,206	YU231066	3AS42732-6	301	664	49	84	166	3.7	40	116	27	5	810	1824	3.7	
(7425-5156)																			
16GA/48"X120"	1	1,423	3,137	YU231143	3AS42866A-6	302	650	53	82	159	4.5	52	123	28	4	810	1822	2.7	
16GA/48"X120"	1	1,424	3,139	YU231143	3AS42866A-7	302	650	53	82	159	4.5	52	123	28	4	810	1822	2.7	
16GA/48"X120"	1	1,420	3,131	YU231143	3AS42866B-1	302	650	53	82	159	4.5	52	123	28	4	810	1822	2.7	
(7425-7949)																			
14GA/48"X36"	1	1,441	3,177	YU231075	3AS42917A-1	302	650	52	83	162	4.2	48	119	26	6	806	1813	3.4	
14GA/48"X36"	1	1,441	3,177	YU231075	3AS42917A-2	302	650	52	83	162	4.2	48	119	26	6	806	1813	3.4	
(7425-8053)																			
14GA/48"X120"	1	1,420	3,131	YU231075	3AS42917A-3	302	650	52	83	162	4.2	48	119	26	6	806	1813	3.4	
14GA/48"X120"	1	1,420	3,131	YU231075	3AS42917A-4	302	650	52	83	162	4.2	48	119	26	6	806	1813	3.4	
(7425-8244)																			
14GA/60"X36"	1	1,446	3,188	YU135202	3AS45623A-211	301	641	53	81	157	5.1	51	114	30	9	806	1822	3	
(7425-8277)																			
14GA/60"X120"	1	1,405	3,097	YU135202	3AS45623A-213	301	641	53	81	157	5.1	51	114	30	9	806	1822	3	
14GA/60"X120"	1	1,540	3,395	YU135202	3AS45623A-214	301	641	53	81	157	5.1	51	114	30	9	806	1822	3	

Remarks: NO MERCURY CONTAMINATION  
WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS  
BEEN MADE IN ACCORDANCE WITH THE RULES OF THE MILL CERTIFICATE.

Send tested for all Heat NO.  
PRODUCT IN ACCORDANCE WITH ASTM A240, A480,  
A368, ASME SA340, Q35766D.

YIH MAU CORP.  
*Lin Kuo Hsin*  
Manager of Quality Assurance Section

2094 304 4455  
(0.037)  
16-01-07  
PO # 267 196

13



New Zealand Steel Limited  
Glenbrook, South Auckland  
Postal: Private Bag 92121, Auckland, New Zealand  
Telephones: (09) 375 8990 / 375 8111 Auckland  
(09) 235 8060 / 235 3535 Waiuku  
Fax: (09) 375 8950

# TEST CERTIFICATE

Ref: 5210/22495

CUSTOMER	Wilkinson	P50323 DI001	SPECIFICATION	ASTMA1008 CS Type A	CERTIFICATE No	TC112397
CUSTOMER O/N	90-21N-686		PRODUCT	CRA WIDE COIL	PAGE	1 of 1
MILL O/N	480737		DIMENSIONS	0.055" x 48" x Coil	DATE	09 June 2005

PACK NUMBER	HEAT No	CHEMICAL COMPOSITION PERCENT															MECHANICAL TESTS (TEST SPECIFICATION - ASTM A370)							
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti	Al	B	N2	CE ( )	BEND	YIELD	T.S.	%ELONG	HARDNESS	r	LENGTH
		x100			x1000										x10000		x100	180°				G.L.=	HRB	( )
R9-459713-00	641758	4	TR	18	4	16	13	19	10	5	3	1	1					Good				54		1585
R9-459714-00	641758	4	TR	18	4	16	13	19	10	5	3	1	1					Good				54		1457
R9-459715-00	641513	5	TR	18	9	18	12	17	15	1	6	1	1					Good				48		1375
R9-459716-00	641513	5	TR	18	9	18	12	17	15	1	6	1	1					Good				48		1473
R9-459717-00	641756	5	TR	20	12	19	12	18	19	1	7	1	1					Good				48		1631
R9-459718-00	641756	5	TR	20	12	19	12	18	19	1	7	1	1					Good				48		1093
R9-459719-00	641756	5	TR	20	12	19	12	18	19	1	7	1	1					Good				50		1562
R9-459720-00	641756	5	TR	20	12	19	12	18	19	1	7	1	1					Good				50		1535
R9-460380-00	641761	4	TR	20	13	17	12	18	25	5	8	1	1					Good				50		1581
R9-460381-00	641758	4	TR	18	4	16	13	19	10	5	3	1	1					Good				49		1562
R9-460382-00	641758	4	TR	18	4	16	13	19	10	5	3	1	1					Good				49		1503
R9-461458-00	642309	2	TR	18	10	20	11	17	19	1	6	1	1					Good				48		1785

PA: 227181  
RV: 551031MD009

YIELD	GAUGE LENGTH (G.L.)	PLASTIC STRAIN RATIO (r)	IMPACT TEST	CARBON EQUIVALENT VALUE (CE)
(A)=0.2% PROOF STRESS	(A)=200mm (C)=80mm (E)=2"	(A)=r0 (C)=r45	(C)=5mm x 5mm	(A)=C+Mn/6
(B)=LOWER YIELD STRESS	(B)=50mm (D)=5.65? So (F)=8"	(B)=r90 (D)=(r0+r90+2*r45)/4	(D)=2.5mm x 10mm	(B)=C+Mn/6+(Cr+V+Mo)/5+(Cu+Ni)/15
			(E)=5mm x 10mm	(D)=

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN TESTED AND INSPECTED  
WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE SPECIFICATION

APPROVED *Atish Misra*  
QC METALLURGIST

16 ga ms

PO# 146, 267, 245,

P51031MD009-1 T M INDUSTRIAL (P50323DI001: 64T756)



New Zealand Steel Limited  
Glenbrook, South Auckland  
Postal: Private Bag 92121, Auckland, New Zealand  
Telephones: (09) 375 8999 / 375 8111 Auckland  
(09) 235 8089 / 235 3535 Waiuku  
Fax: (09) 375 8959

# TEST CERTIFICATE

Ref: 5379/23650

CUSTOMER Wilkinson		P50505-ND002		SPECIFICATION ASTMA1008 CS Type A		Reissued 22/8/2005	
CUSTOMER O/N 90-21N-742				PRODUCT CRA WIDE COIL		CERTIFICATE No TC116858	
MILL O/N 486968				DIMENSIONS 0.033" x 48" x Coil		PAGE 1 of 1	
						DATE 19 August 2005	

PACK NUMBER	HEAT No	CHEMICAL COMPOSITION PERCENT														MECHANICAL TESTS (TEST SPECIFICATION - ASTMA370)								
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti	Al	B	N2	CE ( )	BEND 180°	YIELD	T.S.	%ELONG G.L.=	HARDNESS HRB	r ( )	LENGTH (feet)
R9-466080-00	845423	6	TR	21	11	16	17	20	16	2	3	1	3					Good				50		2700
R9-466081-00	845423	6	TR	21	11	16	17	20	16	2	3	1	3					Good				50		2700
R9-466082-00	845253	6	1	21	10	12	28	30	15	2	3	1	3					Good				47		2651
R9-466083-00	845253	6	1	21	10	12	28	30	15	2	3	1	3					Good				47		2651

YIELD		GAUGE LENGTH (G.L.)		PLASTIC STRAIN RATIO (r)		IMPACT TEST		CARBON EQUIVALENT VALUE (CE)	
(A)=0.2% PROOF STRESS	(A)=200mm (C)=80mm (E)=2"	(A)=r0 (C)=45	(A)=10mm x 10mm (D)=2.5mm x 10mm (E)=5mm x 10mm	(B)=LOWER YIELD STRESS	(B)=50mm (D)=5.65? So (F)=8"	(B)=r90 (D)=(r0+r90+2r45)/4	(C)=5mm x 5mm (D)=2.5mm x 10mm (E)=5mm x 10mm	(A)=C+Mn/6 (B)=C+Mn/6+(Cr+V+Mo)/5+(Cu+Ni)/15	(C)=C+Mn/6+Si/24 (D)=

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN TESTED AND INSPECTED WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE SPECIFICATION

APPROVED

*Atish Misra*  
QC METALLURGIST

20 gms

PO# 267, 146,